



Identification of  
Tiny Seed and Fruit  
Types of Chinese  
Materia Medica

# Semen Plantaginis\*

1 cm

## Source

The dried ripe seed of *Plantago asiatica* L. or *P. depressa* Willd.<sup>#</sup> in the family Plantaginaceae

## Property and flavour

Cold; sweet

## Meridian affinity

Liver, kidney, lung and small intestine meridians

## Actions

To clear heat, promote urination and relieve strangury; to drain dampness and stop diarrhoea; to brighten the eyes; to eliminate phlegm

Note:

\* Its name in Chinese Pharmacopoeia (2020 Edition) is “Plantaginis Semen”.

<sup>#</sup> Only *P. asiatica* is included in this study as currently it is the main species of Semen Plantaginis in the market.

## Micro-morphological features

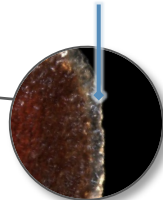
### Shape

Sub-elliptical or irregularly oblong



Has white dented and dotted hilum in the middle of the ventral side

After being soaked in water, epidermis swells to form a transparent mucilaginous membrane surrounding the whole seed



Ventral view

0.5 mm



Slightly flat

Lateral view

0.5 mm

**Surface**

**Black, blackish-brown or brown, with fine wrinkles**

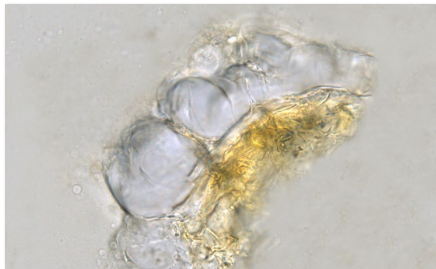


0.2 mm

## Powder microscopic features

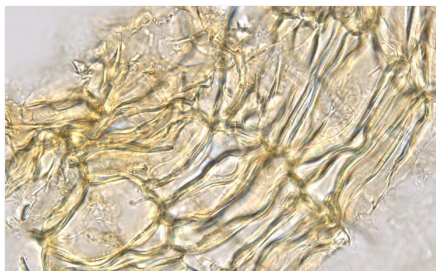
### Testa

#### Outer epidermal cell of testa



Is frequently found in its lateral side, relatively large, appears sub-square or sub-rectangular, with thin wall, usually adheres to inner epidermal cell of testa

#### Inner epidermal cell of testa



Light yellow, appears sub-rectangular, sub-square or sub-polygonal in surface view, wall is thin and sometimes slightly wavy

## Key identification features

### Micro-morphology

- ⊙ Sub-elliptical or irregularly oblong
- ⊙ Has white dented and dotted hilum in the middle of the ventral side
- ⊙ Surface is black, blackish-brown or brown, with fine wrinkles

### Powder microscopy

- ⊙ Outer epidermal cell of testa: is frequently found in its lateral side, usually adheres to inner epidermal cell of testa
- ⊙ Inner epidermal cell of testa: wall is thin and sometimes slightly wavy

For more information, please refer to [website of the Hong Kong Chinese Materia Medica Standards](#):

Plantaginis Semen — HKCMMS (Vol 5)

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